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Mr. Theodore Eliopoulos Interim Chief Investment Officer California Public Employees' Retirement System 400 Q Street Sacramento, CA 95814

Re: Global Equity – Delegated Authority for Specific Internally Managed Portfolios

Dear Ted,

You requested Wilshire's opinion with respect to Staff's proposal to 1) graduate two internally managed emerging markets portfolios from the Developmental Investment Fund, and 2) set the maximum amount that can be allocated by Staff to four internally managed portfolios in a consistent manner.

Recommendation

Wilshire recommends that the Investment Committee approve the graduation of both emerging markets strategies, subject to the drafting and adoption of appropriate policy language. In addition, Wilshire recommends that the Investment Committee approve the requested delegated authority as requested by Staff for the two emerging markets portfolios (maximum of 3% of Global Equity, each) and the Developed International Fundamental Strategy (maximum of 10% of Global Equity).

Background

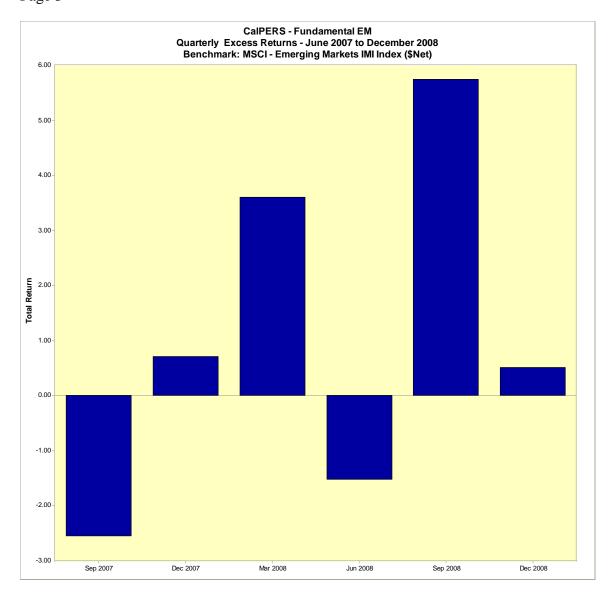
Wilshire views Staff's proposal as having two successive parts: first, should the two emerging markets portfolios be graduated from the developmental fund, and second, what is the right amount of delegated authority with respect to Staff's ability to allocate assets to the three strategies in question. We will address each issue in turn.

The Developmental Investment Fund was created by policy with the objectives of 1) furthering the knowledge base of CalPERS Investment Staff, 2) providing real time experience to determine the efficacy of new strategies, and 3) identifying the operational and investment risks associated with managing live assets in a proposed strategy before it is applied to a larger pool of assets. The Policy requires that any strategies in the

Developmental Investment Fund be thoroughly researched, grounded in solid investment logic, and back-tested to evaluate the efficacy of the proposed strategy prior to it being implemented within the Developmental Investment Fund. After a period of no less than one year of live experience in the Developmental Investment Fund, Staff may propose to graduate the strategies out of the Developmental Investment Fund into the main portfolio.

Following this process, Staff has been managing two emerging markets strategies within the Developmental Investment Fund for over a year and a half. Both strategies offer broad exposure to the emerging market equity opportunity set, but seek to capture outperformance relative to a market capitalization weighted benchmark using different methods. One strategy uses fundamental factors (sales, book value, cash flow and dividends) to create security weights, rather than using market capitalization weights as the benchmark does. This approach has been widely researched with applications across the globe (domestic, international, emerging markets, country specific) and by capitalization size (large, small, and all-cap) and has found to have added excess returns over long periods of time. In fact, CalPERS currently uses this strategy in domestic equities and international developed equities as Staff notes in the agenda item. Wilshire views the emerging markets version of this approach as a natural extension of the "fundamental indexing" approach.

The graph below presents the quarterly excess returns of the emerging markets fundamental strategy since inception. Note that these are the actual returns generated by the portfolio in the Developmental Investment Fund.



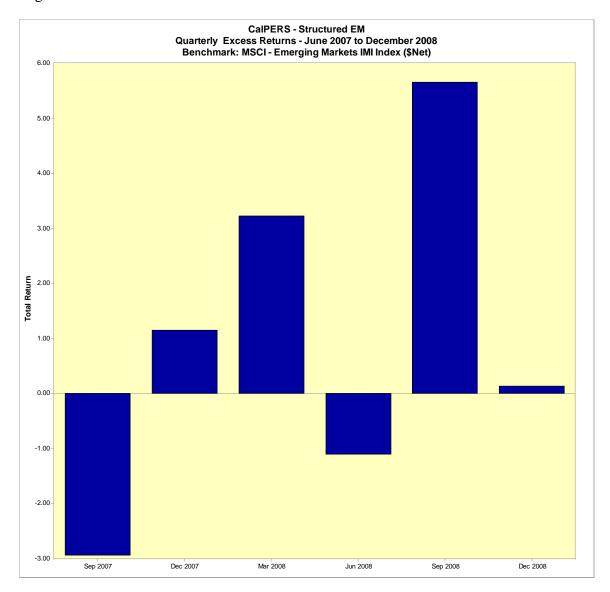
In four of the six quarters, the emerging markets fundamental strategy has outperformed the MSCI Emerging Markets Index, a widely used capitalization weighted index. Notably, the strategy out performed during the 3rd and 4th quarters of 2008 – one of the most difficult periods of time for emerging markets stocks ever. Since inception, the information ratio of the emerging markets fundamental strategy is 0.68, which ranks in the 35th percentile of emerging markets managers over that same time period.

Overall, Wilshire concludes that the emerging markets fundamental strategy has been well tested, both with real time experience and more than 40 years worth of back tests, and that Staff has demonstrated the ability to successfully implement this approach. Wilshire recommends that the Investment Committee approve graduation of this strategy.

The second strategy could be considered an "active/passive" strategy with active country weights but passive security selection. This country-tiered emerging markets strategy uses a model drive approach to determining country weights (based on a variety of factors, including a country's market cap, its liquidity, its volatility and correlation to other country's equity markets, and the operational risk associated with trading in a particular country). The model assigns countries into one of five tiers. Countries within each tier receive equal weights, but more attractive tiers receive higher weights than less attractive tiers. Security selection within a country is a passive replication of the country's equity market.

Since security selection does not drive the performance of this process, it is best considered as a country-specific volatility capture mechanism. Emerging markets are "streaky" and are prone to being overbought or oversold. By equal weighting countries within a tier and rebalancing, the process is forced to buy low and sell high within the context of emerging market countries. Wilshire has had many discussions with Staff about this approach and has reviewed the original whitepaper which was written prior to the strategy's use in the Developmental Investment Fund. Back-tests have proven consistent value-added over a variety of market conditions

The graph below presents the quarterly excess returns of the country-tiered emerging markets strategy since inception. Note that these are the actual returns generated by the portfolio in the Developmental Investment Fund.



Like the fundamental strategy, this strategy has outperformed in four of the six quarters where live results are available. Since inception, the country-tiered emerging markets portfolio has generated an information ratio of 0.65, which ranks in the 36th percentile of emerging markets managers over that time period.

Overall, Wilshire concludes that the country-tiered emerging markets strategy has been well tested, both with real time experience and additional back tests, and that Staff has demonstrated the ability to successfully implement this approach. Wilshire recommends that the Investment Committee approve graduation of this strategy.

Both internally managed emerging markets strategies do comply with the CalPERS' Emerging Equity Markets Principles. Staff has contracted with KLD to screen the universe of investable stocks for compliance with the Principles. Those that do not comply are eliminated from consideration in the portfolio and in the benchmark.

The second request Staff makes is to set the maximum delegated authority for three internally managed strategies, including the two emerging markets strategies listed above. Staff seeks the authority to allocate up to 10% of Global Equity assets in the international developed version of the "fundamental index" portfolio and up to 3% of Global Equity assets in each of the two emerging markets portfolios. Currently, Staff has the ability to allocate up to 10% of Global Equity assets to the domestic version of the "fundamental index" portfolio. Allowing a similar maximum authority for the international developed version is logical as it grants Staff essentially the same authority internationally and domestically. Both the US and international developed markets represent between 40% and 45% of the world's stock market capitalization and emerging markets represent approximately 15%. Put another way, Staff currently has the ability to allocate roughly 20% of the US equity exposure via the domestic "fundamental index" strategy (10% of Global Equity assets divided by roughly 45% of Global Equity assets that are domestic). A 10% allocation to the international "fundamental index" strategy yields a similar authority (about 20% of international developed assets), as does a 3% allocation to the emerging markets "fundamental index" strategy. Thus, Staff's requests across the fundamental strategies make sense.

Staff's request to allocate up to 3% of Global Equity assets to the country-tiered emerging markets portfolio has no corollary analysis. However, it would allow Staff to continue to seek to add excess returns internally at a lower cost than hiring external managers.

In both cases, there would be additional tracking error that the total fund would be subject to; however, Wilshire believes the increase would be nominal for the PERF. Since the "fundamental index" portfolios and the internally managed capitalization weighted portfolios contain largely the same securities, but in slightly different weights, and the country-tiered emerging markets portfolio uses country-specific capitalization weighted index portfolios, the security overlap is almost 100%. Any marginal tracking error will be driven by the slightly different security or country weights. Offsetting this marginal increase in tracking error is the expectation of additional returns, which has been borne out through back-tests.

CalPERS' Staff has conducted a marginal risk calculation and has determined that the additional performance at risk associated with implementing all the three strategies. Performance at risk is a measure that indicates how much underperformance the portfolio might cause relative to the benchmark in a "worst" case scenario, defined as a 1 in 20 negative event. If the international developed version of the "fundamental index" strategy were implemented at the maximum level of the proposed delegated authority, the

additional performance at risk at the total fund level would be 31.7 basis points. If the emerging markets version of the "fundamental index" strategy were implemented at the maximum level of proposed delegated authority, the additional performance at risk at the total fund level would be 10.6 basis points. If the country-tiered emerging markets approach were implemented at the maximum level of proposed delegated authority, the additional performance at risk at the total fund level would be 5.3 basis points. Due to the diversification benefits associated with the excess return streams of each strategy, the total increase in performance at risk would be somewhat less than the 47.5 basis points that the individual strategies sum to.

It should be noted that Fundamental Indexation portfolios have a slight to moderate value bias. In total, the domestic, developed international, and emerging markets versions of the "fundamental index" style of investing could result in a total of up to 23% of Global Equity assets in such value-biased portfolios. This would be one cause of an increase in tracking error during periods in which one style greatly outperforms the other.

It is important to note that from a total risk standpoint, the value at risk for the total fund is not impacted by this change. Put another way, the overall volatility associated with equity investing is not increased or decreased by the implementation of these strategies at higher levels in the portfolio.

Staff has demonstrated the ability to effectively trade the portfolios in question. All internally managed portfolios are subject to the same compliance protocols, trade procedures, and the new brokerage evaluation methodology.

To sum up, Wilshire feels that the requested increase in delegated authority is appropriate, given the highly risk-controlled nature of the strategies. We consider that the long-term expectation of increased returns argues for implementation of these strategies on a slightly larger scale.

Conclusion

Wilshire recommends that the Investment Committee approve the graduation of the two emerging markets strategies and the higher levels of delegated authority requested by Staff. We feel that both emerging markets strategies have been appropriately incubated and Staff has proved that they can be implemented with the existing resources. In addition, we feel that the request for greater amounts of delegated authority is significantly mitigated by the fact that each of these strategies is a very diversified approach to investing in markets where CalPERS already has exposure.

Wilshire does recommend that the Investment Committee and the Policy Subcommittee approve and adopt appropriate policy language for the two emerging markets strategies prior to graduation from the Developmental Investment Fund.

Should you require anything further or have any questions, please do not hesitate to contact us.

Best regards,

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